

# COMPUTER GRAPHICS

## Assignment -1

1. Write a neat block diagram, explain the architecture of a raster display
2. List the operating characteristics for the following display technologies :(a) raster systems (b) vector systems(c) plasma panels (d) LCDs
3. What do you understand by Input/Output devices ?
4. What is the difference between Raster and Random scan ?
5. Write a short note on :(a) Keyboard (b) Mouse (c) Joystick (d) Trackball (e) Digitizer (f) Lightpen(g) Touch panels (h) Scanner (i) Printer

## Assignment -2

- 1). Explain the algorithms for line drawing.
2. Explain the algorithms for circle drawing.
3. Explain briefly the Ellipse drawing algorithm
4. Explain the two polygon filling algorithm
5. Describe in brief about the transformations Translations, Rotations, Scaling, reflections.

### Assignment -3

- 1) Differentiate between Raster Scan CRT's and Random Scan CRT's.
- 2) Give the 2-D Transformation matrix for a) Translation b) Rotation c) scaling
- 3) Write a short notes on a) Reflection b) shearing transformation.
- 4) What is point clipping and line clipping.
- 5) Explain the Sutherland and Cohen subdivision algorithm for line clipping.

### Assignment-4

- 1) Explain Liang-Barsky line clipping algorithm
- 2) What is polygon clipping?
- 3) Explain Sutherland-hodgeman algorithm for clipping
- 4) Give the 3-D Transformation matrix for a) Translation b) Rotation c) scaling
- 5) Derive the transformation matrix for rotation about an arbitrary axis

### Assignment -5

- 1) Write short note on parallel projection.
- 2) Write short note on perspective projection.
- 3) Explain various types of perspective projection
- 4) Derive the transformation matrix for general parallel projection
- 5) Explain the Z-Buffer Algorithm for hidden surface removal